AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Figs. 4-7 and 10-12 .

Attachment: Replacement sheets

REMARKS

Claims 1-23 are present in this application. Claim 23 has been added. Claims 1, 19, 21, and 23 are independent claims.

New Claim

Claim 23 has been added. Claim 23 is directed to the invention of claim 1 along with additional previously unclaimed features, and is supported in the specification at page 7, lines 20-24; page 14, lines 2-17; page 42, line 12 to page 43, line 3; page 45, lines 2-12; page 59, lines 3-18; and page 61, lines 3-21. Applicants submit that no new matter has been added.

Drawings

The drawings in Figs. 4, 6, and 10-12 have been objected to. Applicants provide corrected drawings for Figs. 4-6 and 10-12. Applicants request that the objection to the drawings be reconsidered and withdrawn based on the corrected drawings.

Fig. 4

Reference numeral 84 is deleted.

Fig. 5

Reference numeral 31a is added. Support for this added reference numeral is in the specification at page 45, which states that the ball bearing 81 fits a journal portion 31a that is one of thin portions of both end portions of the fixing roller 31.

Fig. 6

Reference numeral 32 replaces reference numeral 31.

Figs. 10-12

Reference numeral 78 replaces reference numeral 68.

§ 1.83(a) Drawing Objection

The drawings have been objected to under 35 U.S.C. § 1.83(a) for failing to show every feature of the invention specified in the claims, in particular claim 13. Applicants respectfully traverse this objection.

Applicants submit that the specification and drawings disclose sufficient examples of the claimed "potential given member."

For example, according to the specification at page 63, Fig. 8 shows fixing bias voltage applied from a bias device 105 to the cleaning roller 102. According to pages 70-71, Figs. 11-12 show fixing bias voltage having the same polarity as the reverse polarity toner 92 being applied from a bias device 105b to the scraper 122, and the fixing bias voltage having the same polarity as the reverse polarity toner 92 is applied from a bias device 105a to the potential given brush 123. According to the specification at page 68, a second fixing bias voltage can be applied to the heating roller 77, not the cleaning roller 102.

Objection to Specification and Claims

The specification and claims have been objected to for minor informalities.

Applicants have amended the specification and claims as requested in the Office Action. Applicants request that the objections be reconsidered and withdrawn based on the amendments provided herewith.

§ 112, first paragraph, Rejection

Claim 13 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicants have amended claim 13 to recite that the potential given member also functions as a heating member. Applicants respectfully traverse this rejection based on the claim as amended.

The amendment is supported in the specification at page 68, which states that the second fixing bias voltage may be applied to the heating roller 77, instead of the cleaning roller 102.

§ 102(b) Rejection – Nanataki

Claims 1-9 and 19-21 have been rejected under 35 U.S.C. § 102(b) as being anticipated by US 2001/0016132 (Nanataki). Applicants respectfully traverse this rejection.

Embodiments of the present invention are directed to an image forming apparatus which can prevent image failure caused by reverse polarity toner, maintain the normal image formal operation, and secure a satisfactory image quality and the life of each means over the long term. In particular, the present invention solves a problem in which "if (i) a reverse polarity toner (a reverse polarity developer) adheres to the back surface of the printing medium in the image forming section, and (ii) an electrostatic force (electrostatic force in a direction of the pressure roller 32) with respect to the toner of the fixing roller 31 or the pressure roller 32 is stronger than releasability with respect to the toner, the reverse polarity toner melts and adheres to the pressure roller 32" (specification at paragraph bridging pages 2-3, and at page 4, third paragraph).

A solution covered by a fixing device of claim 1 includes a fixing member and a pressure member sandwiching the printing medium so as to feed the printing medium, so that the unfixed image on the printing medium is fixed on the printing medium. The fixing device comprises a holding electric field generating means for generating a holding electric field which is an electric field in a direction for reverse polarity developer on the printing medium, the reverse polarity developer having a polarity opposite to a polarity of the developer which forms an image on the printing medium. Claims 19 and 21 recite comparable features.

Applicants submit that although Nanataki discloses applying fixing bias voltage having the same polarity as the developer on the front face of the printing medium, Nanataki fails to disclose "reverse polarity toner" and associated problems therewith, as well as does not disclose any solution for dealing with the problems of "reverse polarity toner."

The Examiner expresses that,

"the bias applied to the fixing device is the same as the developer and it is therefore clear that the bias is opposite that of the reverse polarity developer. It is

inherent that charges of the same polarity repel and opposite polarities attract, therefore it is clear that the bias applied to the fixing apparatus would attract the reverse polarity developer to the printing medium." (page 7 of the Office Action).

Applicants disagree with the Examiner's assumptions. Applicants submit that Nanataki does not disclose "reverse polarity toner," and thus, no evidence is provided to show that Nanataki was aware of problems associated with reverse polarity toner. Instead, Nanataki specifically addresses a problem in which "the adequate insulation feature could not be obtained, with the result that the offset phenomenon could not be prevented completely." (para. 0007). Nanataki discloses that a bias having the same polarity as that of toner is applied to the fixing roller 19 from an electric power source 21 (para. 0035). A sufficient repelling force is generated between the fixing roller 19 and the toner and an attractive force is generated between the pressure roller and the toner (para. 0036). The rectifier element 36 is connected in a direction that the charges having the polarity opposite to that of the toner can be shifted from the earth side to the elastic material. As a result, the pressure roller is biased to have the polarity opposite to that of the toner (para. 0073).

Thus, Applicants submit that Nanataki fails to disclose the claimed holding electric field generating means for generating a holding electric field which is an electric field in a direction for holding a reverse polarity developer on the printing medium.

Accordingly, Nanataki fails to disclose each and every claimed feature and the rejection fails to establish *prima facie* anticipation. Applicants request that the rejection be reconsidered and withdrawn.

§ 102(b) Rejection – Ohtsuka

Claims 1, 2, 10, 12, 15, 16, 21, and 22 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,331,385 (Ohtsuka). Applicants respectfully traverse this rejection.

Ohtsuka discloses an image fixing rotatable member and an image fixing apparatus using the rotatable member as a pressing rotatable member, wherein a sufficient parting property and a sufficient prevention of electric charging can be accomplished.

In particular, in Figure 2 of Ohsuka, when the toner T which has been charged with a negative polarity is used, the diode 20 is connected in such a direction that the positive charge on the backside of the transfer material is not released and the negative charge produced by the triboelectric charging is released. In addition, the core metal of the fixing roller 1 is supplied with a potential having the same polarity as the toner T from the power source 19. By doing so, the toner offset can be further prevented.

Similar as in the above with respect to Nanataki, the Examiner expresses that,

> "the bias is created to be the same as the toner (col. 4, lines 45-48) which would clearly attract any reverse polarity toner on the non-imaging surface of the printing medium to be attracted towards the printing medium), the reverse polarity developer having a polarity opposite to a polarity of the developer which forms an image on the printing medium (Fig. 5)." (page 9 of the Office Action).

Applicants disagree with the Examiner's assumptions. Applicants submit that Ohtsuka does not disclose "reverse polarity toner," and thus, no evidence is provided to show that Ohtsuka was aware of problems associated with reverse polarity toner.

Thus, Applicants submit that Ohtsuka fails to disclose the claimed holding electric field generating means for generating a holding electric field which is an electric field in a direction for holding a reverse polarity developer on the printing medium.

Accordingly, Ohtsuka fails to disclose each and every claimed feature and the rejection fails to establish *prima facie* anticipation. Applicants request that the rejection be reconsidered and withdrawn.

§ 103(a) Rejections

Claim 11 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nanataki in view of U.S. Patent 6,438,348 (Kobaru).

Claim 14 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohtsuka.

Claims 17 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohtsuka in view of US 2002/0186981 (Takeuchi).

Claims 11, 14, 17, and 18 are dependent claims. At least for the reasons above for claim 1, Applicants submit that the rejections fail to establish *prima facie* obviousness for claims 11, 14, 17, and 18. Applicants request that the rejection be reconsidered and withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By Robert Down #48222

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Attachments: Drawings